

Application No.: 10/028661

Case No.: 56076US002

Amendments to the Claims:

The following Listing of Claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A method of polymerizing a composition ~~essentially free of a cationic organometallic complex consisting essentially of a free radically polymerizable composition~~ containing a free radical photoinitiator to produce a pressure-sensitive adhesive, comprising the sequential steps of:

- (a) exposing the composition to a first radiation source having a maximum spectral output occurring at a wavelength of greater than 300 nm; and
- (b) thereafter exposing the composition to a second radiation source having a maximum spectral output occurring at a wavelength of less than 300 nm.

2. (canceled)

3. (currently amended) A method as defined in claim 2, wherein said composition ~~comprises~~ consists essentially of:

- (a) a free radical photoinitiator;
- (b) about 50-100 parts by weight of at least one acrylic acid ester of an alkyl alcohol, said alcohol containing from 1 to 18 carbon atoms; and
- (c) about 0-50 parts by weight of at least one copolymerizable monomer.

4. (canceled)

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5. (original) A method as defined in claim 1, further comprising the step of applying the composition to a substrate before exposing the composition to said first radiation source.
6. (original) A method as defined in claim 5, wherein said substrate comprises at least one of paper, polymeric film, metal foil, woven cloth, or nonwoven cloth.
7. (previously presented) A method as defined in claim 5, further comprising the step of polymerizing the composition to at least 10% conversion before the composition is applied to said substrate.
8. (original) A method as defined in claim 1, wherein the step of at least exposing the composition to said first radiation source is conducted in an inert environment wherein the concentration of oxygen is less than about 1000 ppm.
9. (original) A method as defined in claim 8, wherein the composition is covered by a transparent film before being exposed to said first radiation source to create said inert environment.
10. (original) A method as defined in claim 1, wherein said photoinitiator comprises less than about 5 percent of the composition total weight.
11. (original) A method as defined in claim 1, wherein the photoinitiator comprises 2,2-dimethoxy-1,2-diphenylethan-1-one.
12. (original) A method as defined in claim 1, wherein the composition includes a combination of at least two different photoinitiators.

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13. (original) A method as defined in claim 1, wherein exposure of the composition to said first radiation source results in at least about 20% completion of the polymerization reaction, and exposure of the composition to said second radiation source results in at least about 95% completion of the polymerization reaction.
14. (original) A method as defined in claim 1, wherein exposure of the composition to said first radiation source results in at least about 75% completion of the polymerization reaction, and exposure of the composition to said second radiation source results in greater than about 95% completion of the polymerization reaction.
15. (original) A method as defined in claim 1, wherein the composition includes acrylate monomers.
16. (original) A method as defined in claim 15, wherein said acrylate monomer comprises at least about 30% of the composition total weight.
17. (original) A method as defined in claim 1, wherein the composition includes a crosslinking agent.
18. (original) A method as defined in claim 17, wherein the crosslinking agent is a triazine, benzophenone, or a substituted benzophenone.
19. (original) A method as defined in claim 17, wherein the crosslinking agent is a trihalomethyl-s-triazine.
20. (original) A tape including a pressure sensitive adhesive prepared using the method of claim 1.
- 21-23 (canceled)

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24. (currently amended) A method of polymerizing a composition ~~essentially free of a cationic organometallic complex~~ consisting essentially of a free radically polymerizable composition, comprising the sequential steps of:

- (a) exposing the composition to a first radiation source comprising a fluorescent lamp; and
- (b) thereafter exposing the composition to a second radiation source comprising a germicidal lamp.

25. (currently amended) The method as defined in claim 24 1, wherein the fluence rate of the first and second radiation ~~step~~ steps is less than ~~about 50~~ 20 mW/cm².

26. (canceled)

27. (previously presented) A method as defined in claim 1, wherein said second radiation source is a low pressure mercury lamp.

28. (previously presented) A method as defined in claim 27, wherein said low pressure mercury lamp is a germicidal lamp.

29. (currently amended) A method of polymerizing a composition to produce a pressure-sensitive adhesive, comprising the sequential steps of:

- (a) providing a composition ~~essentially free of cationic organometallic complex photoinitiator and containing a free radical photoinitiator~~ consisting essentially of a free radically polymerizable composition;

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- (a) exposing the composition to a first radiation source having a maximum spectral output occurring at a wavelength ranging from about 315 nm to 500 nm; and
 - (b) thereafter exposing the composition to a second radiation source having a maximum spectral output occurring at a wavelength ranging from about 200 nm to 300 nm.
30. (previously presented) The method as defined in claim 29, wherein at least 90% of the actinic output from said first radiation source falls within a wavelength range from 315 nm to 400 nm.
31. (previously presented) The method as defined in claim 29, wherein at least 90% of the actinic output from said second radiation source falls within a wavelength range from 200 nm to 300 nm.